CHAPTER XXIV

The Composite Bow

By Samuel G. McMeen

FOR long distance shooting, irrespective of the hitting of a mark, the bow having most to its credit is that made and used by the Turks. Three features distinguish such a bow from the English longbow: that it is shorter, that it is strongly reflexed, (being in this regard the prototype of the Cupid's bow) and that it is composite, being made of wood, horn and sinew or an equivalent of the latter.

Elsewhere in this book are told the details of the shooting of these bows. Mahmoud Effendi, a Turk, in 1795 shot a Turkish arrow 482 yards from a Turkish composite bow. Ingo Simon, an Englishman, in 1913, at Le Toquet, France, shot an arrow 459 yards, 8 inches from a composite Turkish bow. No English longbow has approached these distances. The difference is in the bow and not in any secret of its use.

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The bow used by Ingo Simon is said to have been made in 1835, and that the secret of the making has been lost. It is not known that a successful composite, reflexed, flight-shooting bow ever was made by a man of the Anglo-Saxon race before the summer of 1917.

In that year, Dr. Saxton T. Pope, a surgeon of San Francisco, made such a weapon, and the editors are indebted to him for the details on which the following description is based.

The materials are of vegetable and animal origin; that is, wood, horn, rawhide and catgut. These materials are assembled so that all of them are present throughout the length of the bow. The central "backbone" is of white hickory; it is slightly oval in cross-section; length, fifty-three inches, width, one and a half inches and thickness five-sixteenths inch. The horn portion is built up of strips, and forms the belly of the bow. The hickory is backed by the rawhide and catgut, and the whole is enclosed in more rawhide.

These details will appear more clearly by following the steps taken by Dr. Pope in the actual making of the bow.

From the longest cow-horns obtainable, he cut strips half an inch wide, a quarter of an

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inch thick, and as long as possible, he mitred across the half-inch dimension, and fitted the strips together in three parallel columns on the hickory base. Care was taken to "break joints" in this arrangement. The horn strips were softened in hot water at the time of application to the base. Organ glue was used for the attachment.

At this point, the ends of the bow were given the reflex; that is, the ends of the wood and horn bend backward, the horn being on the convex side. Glue applied plentifully, heavy binding with strong twine, supplemented by many clamps.

After a week's drying, the clamps and twine were removed and the horn rasped into shape, giving it a general thickness of a quarter of an inch, but thickest in the mid-limbs. Then the following sequence: a backing of thin rawhide attached by liquid glue; drying; a layer of one hundred strands of No. 3 catgut laid side by side on the rawhide in liquid glue; these bound on by a gauze bandage; drying; removal of bandage; scraping; shaping; another layer of rawhide over the parallel strands of catgut.

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After still more drying, the bow now was given horn nocks and these provided with lateral notches to keep the string from slipping off of the strongly bent extremities when the bow should be fully drawn.

More drying; filing the horn side to symmetrical and supposedly proper proportions; binding again with cord and testing the curve and weight; to make these adjustments all the reduction was done upon the horn; horn ears were set on the belly of the bow three inches from the tips.

All now was covered with rawhide. This was softened in warm water and attached by organ glue; bandaged; dried, unbandaged; scraped; sand papered; wrappings of linen thread at a few places symmetrically chosen in each limb (to safeguard against the parts separating); a handle of leather was applied, a finish of shellac and oil; at this point the bow was well dried.

The string is of Pagenstecher thread, a material used by surgeons, laid up with double loops after the manner of Maxson as elsewhere described in this book, served not only at the nocking point but at the points where the string engages the ears mentioned as being

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placed three inches from the tips. The purpose of these ears is not, as some authors seem to think, to assist in "bracing" the bow, but to afford for the string a fulcrum or resting spot to insure a clear release. Otherwise the string would buzz on the reversed outer limb. In other words, the formation is such as to shorten the chord of the arc abruptly, giving a quick vibration to the string.

At the time of this writing this first Anglo-Saxon-built composite flight-shooting Turkish-type bow has not seasoned to a point to give final account of its powers. In preliminary trials, however, it has demonstrated great driving ability. One of its earliest shots in trial was but ten yards short of the present American flight-shot record. What it yet shall do will be interesting to be seen. The details will appear in the succeeding editions of this book.

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